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PHYSICOCHEMICAL AND RHEOLOGICAL PROPERTIES OF DOOGH UNDER SPECIFIC FERMENTATION

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ABSTRACT

Fermented dairy products such as doogh are more nutritious than the natural milk from which they are made. In this study enhancing the viscosity of *Doogh* (Iranian yogurt drink) fermented by *Leuconostoc mesenteroides* under the optimum condition of exopolysaccharide (EPS) production including temperature of 25°C, agitation of 120 RPM and different sucrose contents from 0 to 2%, w/w, was investigated. Addition of sucrose was not influenced the rheological and sensory characteristics of *Doogh* samples before the fermentation significantly according to sensory and rheological analysis. The results of chemical, microbiological, viscosity, serum separation and sensory analysis showed that viscosity of *Doogh* increased corresponding to sucrose contents during the fermentation up to 10.01 cp with no change in the taste of the *Doogh* samples. Also, sensory analysis of consistency confirmed the viscosity results. Serum separation values of samples also showed enhancement in stability after the fermentation and finally, this special fermentation process contributed to enhancement in viscosity of *Doogh* as an edible suspension, with reasonable economic targets compared with other stabilizing methods.

Keywords: Doogh, fermentation, *Leuconostoc mesenteroides*, physicochemical quality, rheological properties